REMARKS

Claims 2-12, 14, 15, 22, 23, and new claims 24-28 are pending in this application. Reconsideration and allowance are respectfully requested.

Claim 9 stands rejected under 35 USC 112 as being indefinite. The amendment to claim 9 is believed to make this rejection moot. Claim 10 was amended to remove an unintended comma. Claim 22 was amended to remove unintended terminology and to resolve antecedent basis issues.

New independent claim 24 is similar to independent claims 14 and 15 but recites only the most pertinent features of the claimed aspect of this invention. New dependent claim 28 recites a slurry having a plurality of chelating particles and a plurality of abrasive particle wherein the average size of the chelator particles is from about 50% to about 200% of the average size of the abrasive particles. Ueda recommends the chelator size be thirty times the size of the abrasive particles, but also included an example where the abrasive particles had an average diameter of 0.122 microns and the chelator particles had an average diameter of 0.344 microns. This rcitation, supported in paragraph [0047] of the instant specification, is as a result of the ratio of average particle sizes independently patentable over the cited references.

The claims stand rejected as being obvious over one or more references. Applicants traverse, as is discussed below in detail.

Claim 14 and Claims 3-5

Claim 14 and claims 3-5 depending therefrom stand rejected as being anticipated by US 2003/00017785 (hereafter "Ueda"). Applicants respectfully traverse.

With Respect to Independent Claim 14:

Claim 14 recites a slurry comprising among other things a chelator particle having a structure where there is a particle, chelating compounds, and a spacer which is different than the particle and the chelating compound and which is disposed between the particle and the chelating compounds. *See* paragraph [0013] of the instant specification. Preferably, the particle portion of the chelator particle has the same composition as does the abrasive particles, but the abrasive particles do not have chelating compounds bonded thereto, while the chelator particles have chelating compounds bonded thereto. *See* paragraph [0027] of the instant specification. Therefore, the chelator compounds are not attached directly on the particle. Rather, the spacer is

attached to the particle, and then chelating compounds are attached to the spacer. *See* paragraph [0019] of the instant specification. The spacer does not have a substantial chelating function. *See* paragraph [0038] of the instant specification.

Claim 14 requires that the particle, the spacer, and the chelating compounds be different. Such a chelator particle is not described in Ueda. In Ueda, the ligands are a part of the molecules which form the particle. Ueda describes using milled chelator resins to perform the chelator function. *See, e.g.*, Ueda at paragraphs [0008] and [0018] describing "chelate resin particles." *See also* Ueda Example 1 at paragraphs [0059] to [0060] and Example 7 at paragraphs [0094] to [0096]. Such particles would have substantially uniform composition throughout the particle. The Examiner states in the Office Action at part 4 that Ueda teaches "the chelating particles may comprise a particle and a plurality of chelator compounds attached to the surface. First, even the Examiner's characterization of Ueda does not mention the spacer disposed between the particle and the chelating compounds as recited in independent claim 14. Therefore, Ueda does not teach every limitation of the claim. Second, the Examiner has mischaracterized the reference. Ueda states at paragraph [0012] that a "chelate resin particle carries on the surface thereof a polydentate ligand having a plurality of coordinated atoms forming a complex with a metal." This does not say that the ligand is added to the surface – rather, the resin has such ligands therethrough and a surface of the resin exposed by milling will therefore contain such ligands. This is also not to say that the ligand material is different than the material within the particle – in fact Ueda uses a substantially homogenous chelate resin material and mills it from greater than 126 microns to a particle size of 0.344 microns (see Ueda at paragraph [0060]), so simple math shows that substantially all of the exterior surface area of the resultant 0.344 micron resin particles of Ueda was originally within the resin matrix of the much larger particles of material Ueda started with. In fact, at paragraph [0020] Ueda allows for the possibility that there will be no ligands on the surface (Ueda suggests the particles may be coated with a film, and without being bound by theory we believe such a phenomenon may be due to exhaustion of ligands on the surface or to hydrolysis of said ligands during shipping and storing). In any case, Ueda says ligands will be present on any new surface of the resin particle exposed due to the stresses of polishing. Ueda in fact teaches an embodiment disclosed in the current application at paragraph [0043], but claim 14 does not encompass this embodiment.

Claim 14 require a particle, a spacer different than the particle and the chelating compounds being on the particle, and chelator compounds being attached to the spacer. There is physical separation of chelator particles from the particle. This is not taught or suggested by Ueda, and Applicants respectfully request that this rejection of independent claim 14 be reconsidered and removed.

With Respect to Dependent Claims 3 and 4:

Claim 3 recites the chelator particle having attached thereto (via the spacer) chelating compounds, where the zeta potential has a net negative potential "before attachment." There is no measure of the zeta potential of the particles of Ueda prior to attachment of the chelator compounds, as the chelator compounds are an integral part of the particle. Claim 4 depends from claim 3 and recites that the zeta potential remain negative after the attachment of the chelating compounds thereto. Ueda just measures the zeta potential of his chelate resin particles, with no measurement (and with no way of measuring) the zeta potential of his particle prior to attachment of chelating compounds. Applicants respectfully request that this rejection of dependent claims 3 and 4 be reconsidered and removed.

Claims 2, 6, 7 and 9-12, 15 and 22.

Claims 2, 6, 7 and 9-12 which depend from claim 14, and independent claim 15 and claim 22 depending therefrom stand rejected as being anticipated by Ueda in view of US 4732887 (hereafter "Obanawa"). Applicants respectfully traverse.

With Respect to Independent Claim 15:

Independent claim 15 recites a method using a slurry in which there be a particle, a spacer attached to said particle, and chelator molecules being attached to the spacer. The Examiner utilizes Ueda as discussed in relation to claim 14. The Examiner uses Obanawa, as described in the Office Action on page 4, to teach that a "chelating particle may comprise a metal oxide abrasive and a plurality of compounds and it can be used as an absorbant." Applicants respectfully traverse.

The arguments against this reference presented with respect to claim 14 are applicable to the rejected claims and is therefore incorporated herein by reference. Ueda does not teach a particle body different from the chelator, nor a spacer different than the particle body and the chelator being disposed between the particle body and the chelator.

The use of Obanawa as a reference is clearly a case of the Examiner reconstructing Applicant's invention by impermissible hindsight. The instant invention clearly pertains to polishing, etching, and/or residue removing slurries, more particularly to chemical mechanical polishing ("CMP") slurries, and Obanawa does not pertain to the field of polishing or CMP -- Obanawa's particles are used in chromatography and Obanawa is seeking high mechanical integrity to prevent mechanical crushing of particles of "chelate resin" during the packing and use of the resin in liquid chromatography. *See* Obanawa at column 1 lines 16-26 and column 2 lines 59-64. The particles of Obanawa are not taught nor contemplated to be chelators in a CMP slurry. The particles of Obanawa described as "exhibiting high separating and adsorbing capacity" when used in the chromatographic separation of certain chemicals when packed into a chromatography column.

There is no motivation in Ueda to use a particle formed of a metal oxide having chelators attached thereto. Ueda is not concerned with adding chelators to his CMP process, which utility is known for decades, but rather to particular particles that increase polishing rates of certain substrates. Note Ueda compared polishing rates of slurries containing his particles to those of slurries containing conventional soluble chelators. Ueda used milled chelator resin for his chelator particles, and said material worked well. There is no suggestion in Ueda to make a chelator particle from an inorganic oxide base material, nor any teaching that would suggest such a particle would be useful or beneficial. In fact, Ueda teaches using a "chelate resin particle" (*see* Ueda at paragraph [0011]), and Ueda suggests the chelating particles be at least 30 times larger than the abrasive particles (*see* Ueda at paragraph [0029]). It is known in the art that such a size differential of abrasive particles will generally lead to scratching of the substrate should metal oxide-based particles of Obanawa be used in the CMP slurry of Ueda. Likewise, there is no motivation in Obanawa to use the chelator-containing particles in CMP or any such related process.

Further, using the particles of Obanawa in the slurry of Ueda would be contrary to the teaching of Ueda. Ueda at paragraph [0021] teaches that the chelator resin particles be less than 1 micron. The particles of Obanawa would have been too big to use in CMP. Obanawa at column 4 lines 59-66 teaches that his chromatographic particles have a size between 10 microns and 1 mm (1000 microns), preferably between 20 microns and 500 microns. While we do not

profess to be experts in chromatography, we are not aware of the use of submicron particles in chromatography (the field of Obanawa). The use of particles of diameter 10 microns or more would be disastrous in CMP. There is no suggestion in Obanawa that such particles of Obanawa can be made where the particle size is 1 micron or less.

As there is no motivation to combine the references and no reasonable expectation of success, Applicants respectfully request reconsideration and removal of this rejection of independent claim 15 over the cited references.

With respect to claim 10:

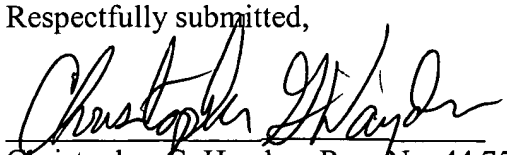
Dependent claim 10 recites that the chelator compounds are attached to the chelating particle via being attached to a spacer and the spacer being attached to the particle by a covalent chemical bond. The attaching of a spacer to the particle body via a covalent bond is not taught or suggested in either reference. Applicants respectfully request reconsideration and removal of this rejection of dependent claim 10 over the cited references.

With respect to claim 22:

Dependent claim 22 depends from claim 15 and recites the chelator compound is attached to the particle via a covalent chemical bond. This is not taught or suggested in either reference. Applicants respectfully request reconsideration and removal of this rejection of dependent claim 22 over the cited references.

The Examiner is encouraged to call the undersigned at (202) 739-5557 to expedite the prosecution of the subject application. A Fee for the extension of time request and for the added claims is appended hereto. The Commissioner is authorized to charge fees due for any reason other than the issue fee to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 for the appropriate amount.

Respectfully submitted,

June 20, 2006 By: 

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